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NATURAL HISTORY OF HTLV III INFECTION IN USAF PERSONNEL: CLINICAL EVALUATION, LABORATORY EVALUATION, ASSESSMENT OF IN VIVO AND IN VITRO IMMUNOLOGIC STATUS AND DATA STORAGE

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ANNUAL REPORT

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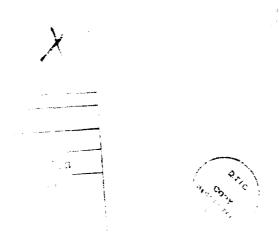
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The Wilford Hall USAF Medical Center HIV Scientific Group has continued to enroll new HIV positive patients and during the period of this report has reached accumulative number of 989 patients in the databank. Over the last 6 months, we have performed 236 evaluations including 59 new patients and 177 reevaluations. During the time period of this report, the US Air Force HIV Natural History Study was continued with a significant number of individuals returning for their third evaluation. Rates of progression continued to be low in Walter Reed stage 1 and 2 and much higher in Walter Reed stage 4 and 5. A subgroup of 26 rapid progressors was compared to a controlled population of 26 non progressors and analyzed for surrogate markers of disease progression. Absolute CD4A cell count and serum IgA were the 2 strongest predictors of progression prospectively. 20. DISTRIBUTION/AVAILABILITY OF ABSTRACT DUNCLASSIFIED/UNILIMITED SAME AS RPT DDIC USERS Unclassified 221. ABSTRACT SECURITY CLASSIFICATION Unclassified 2226. TELEPHONE (Include Area Code) [222. OFFICE SYMBOL									
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Opportunistic infections were monitored and over 100 were diagnosed. The majority of these, approximately 60%, were Pneumocystis carinii pneumonia. Opportunistic infections were almost never seen when the CD4A helper cell count was greater than or equal to 200. During the period of this report, routine treatment of individuals with CD4A helper cells of below 200 per cubic millimeter with AZT and anti PCP prophylaxis were initiated. The neurological natural history study continued to be productive with extended longitudinal followup of neuropsychiatric and neurological functional parameters being gathered. Routine CSF analysis was terminated during this study. A very fruitful collaboration with investigators in the Cellular-Immunology Lab of Dr Gene Shearer at the National Cancer Institute continued further defining functional perturbations of immune function secondary to HIV infection. variety of intra and extramural collaborations were accomplished. During this transition year, extensive planning and implementation occurred while the Henry M. Jackson Foundation for Military Medical Science replaced the US Army Medical Research and Development Command as the prime funder of HIV research at WHMC. Wilford Hall now functions as an intergrade member of the HMJF Tri-Service ID program with standardization and approval of Walter Reed Retrovirology Research protocols at Wilford Hall, submission of Wilford Hall protocols to the Jackson Foundation for approval and inclusion of Wilford Hall in the GP160 recombinant peptide vaccine trial.



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Significant scientific observations include continued followup of the HIV Natural History Study documenting significant rates of progression over the 12 month time period from Walter Reed stage 1 or 2 to higher stages. In addition, it appears that an increasing Walter Reed stages the rate of progression increases. We have looked at markers of disease progression in the Natural History Study which include extensive immunological and neurological testing. We have identified a cohort of 26 rapid progressors and matched them with a control population of 26 patients who did not progress for CD4 initial T-cell count, race, age and sex. Laboratory markers which distinguished progressors from non-progressors include serum LDH, which was higher in progressors at initial admission, p=.02, serum IgA concentration, p=.001. Initial IgE values, Syphilis and hepatitis B serologies were not hemoglobin and platelet counts. predictive of progression. The change in serum IgE during the interval trended toward significance p=.06. In addition, very recently we have begun performing in-house assays for serum neopterin, TNF/cachectin and beta 2 microglobulin which in other cohort studies have been independent predictors of disease progression.

Our large neurological Natural History Study has continued on all active duty seropositive individuals who received a full neurological evaluation, neuropsychiatric testing and psychiatric evaluation with each evaluation. During this calendar year, routine CSF testing was deemed not to be clinically productive and was dropped from routine laboratory test. CSF data has been derived from this project which have shown that abnormalities are present at all stages of HIV infection to include mild pleocytosis, increased IgG synthesis, elevated proteins and presence of oligoclonal bands. Intensive evaluation of cognitive function in HIV infected individuals has continued to demonstrate that early health related anxiety may adversely effect neuropsychiatric testing, that when patients return for their second and third re-evaluations, while in early stages of disease, they do not show evidence of clinically significant neuropsychiatric impairment and that individuals do show changes with a decrement in neuropsychiatric testing as they progress from HIV asymptomatic to symptomatic disease and into frank AIDS. Studies involving nerve conduction velocity have demonstrated a progressive decline in parameters associated with decline in CD4 counts in HIV infected individuals. However, in early stages this is not clinically significant.

Finally, analysis of opportunistic infections has shown that these are very rare when CD4A counts are greater than or equal to 200 per cubic millimeter. Demographic characteristics in our cohort have tended to follow the same patterns as previously established with approximately with 50% caucasians, 40% blacks and 10% other racial and ethnic groups.

1989 was largely a year of transition for the HIV project at WHMC as US Army funding mechanisms changed but monies were made available to ensure continuity of the project until such time as the Henry M. Jackson Foundation memorandum of understanding was completed between the US Air Force, US Army and all other principals.

Close interactions among multidisciplinary groups in comparing natural history data, CD4 cell counts, neuropsychiatric testing, neurological findings, pediatric HIV infections, spouse studies and many other US Army RV protocols were reviewed, accepted and principal investigators designated at Wilford Hall USAF Medical Center.

During this time period, funding largely fulfilled the function of keeping the HIV natural history study alive until such time as the Henry M. Jackson Foundation for military medical science could undertake the funding and administration of this research in collaboration with the Tri-service HIV project with the US Army as lead agency for infectious disease research.

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